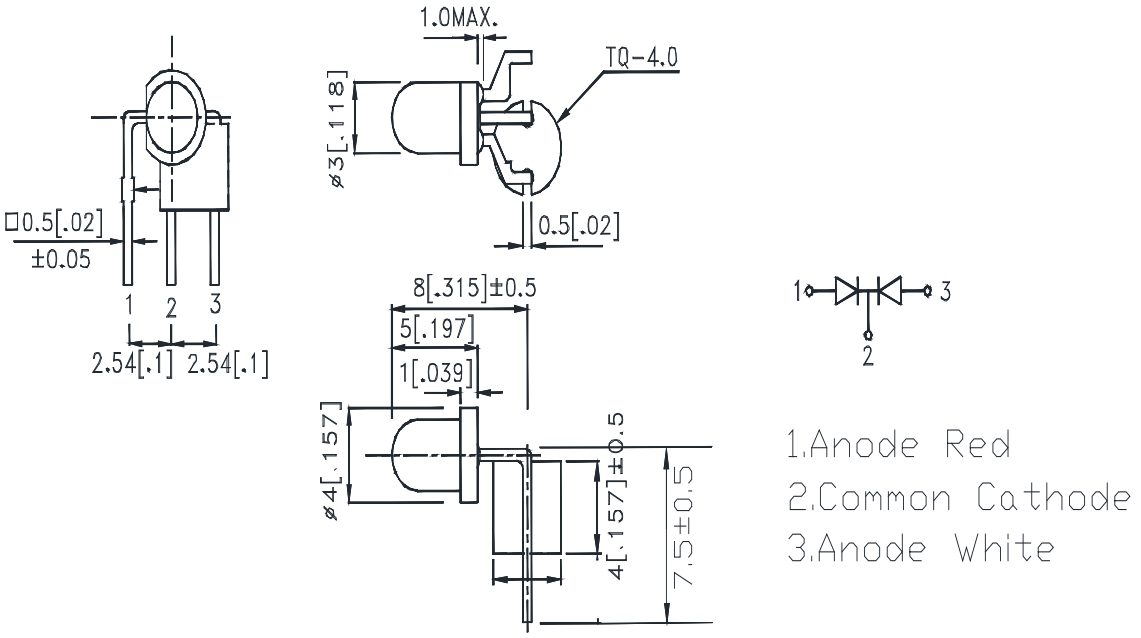
Features

· 3mm DIA LED Lamp
· Low Power Consumption
· High Efficiency
· Various Colors and Viewing Angle
· Long Solid State Reliability
· Package: 1000pcs/Packing

Applications

· Indicator

Package Dimensions



Notes:

1. All dimensions are in millimeters (inches).
2. Tolerance is ±0.25mm(.01″) unless otherwise noted.
3. Protruded Resin under flange is 1.0mm(0.04″) max.
4. Specifications are subject to change without notice.

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Selection Guide

Part No	Lens Type	Dice	Emitted Color
FDA-3523RW-ZWD1-CC-L8.0-7.5	Diffused	InGaN AlInGaP	White Red

Electrical / Optical Characteristics At Ta=25 ℃

Symbol	Parameter		Red	White	Unit	Test Condition
Iv	Luminous Intensity	MIN.	25	72	mcd	IF=20mA
		TYP.	125	380		
2θ1/2	Viewing Angle	TYP.	30	30	deg	IF=20mA
λ Peak(x)	Peak Emission Wavelength	TYP.	615	0.28	nm	IF=20mA
λ d(y)	Dominant Wavelength	TYP.	621	0.26	nm	IF=20mA
△λ	Spectral Line Half-Width	TYP.	17	20	nm	IF=20mA
VF	Forward Voltage	MIN.	1.7	2.7	V	IF=20mA
		TYP	2.3	3.1		

Note:

1. θ1/2 is the angle from optical centerline where the luminous intensity is 1/2 optical centerline value
2. The chromaticity coordinates(x,y) is derived form 1931 CIE chromaticity diagram.
3. The chromaticity coordinates(x,y) guarantee should be added±0.02 tolerance.

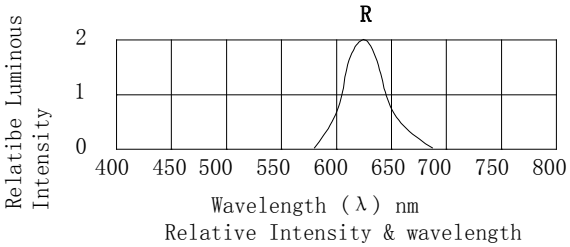
Absolute Maximum Ratings At Ta=25℃

Parameter	Red	White	Unit
Power Dissipation	75	95	mW
Peak Forward Current[1]	80	100	mA
Continuous Forward Current	25	25	mA
Derating Linear From 25℃	0.4	0.25	mA/℃
Reverse Voltage	5	5	V
Electrostatic Discharge Threshold(HBM)	2000	300	V
Operating Temperature Range	-55℃ to + 85℃		
Storage Temperature Range	-55℃ to + 85℃		
Soldering Condition	260℃ For 5 Seconds		

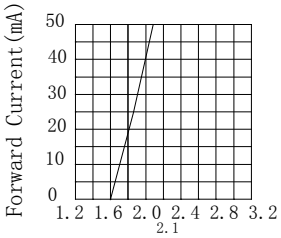
Note:

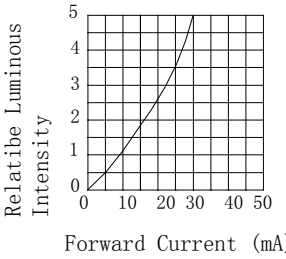
1. 1/10DutyCycle, 0.1msPulseWidth

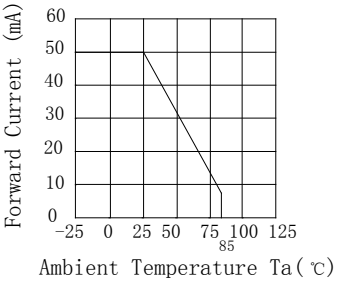
Electrical Optical Characteristics Curves At Ta=25 ℃

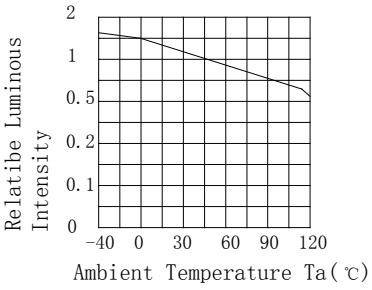


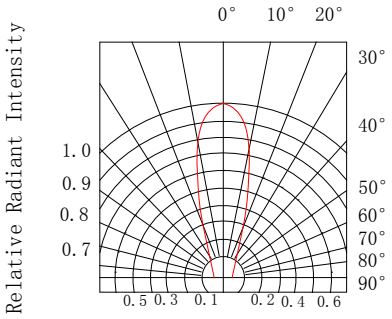
Relative Intensity & wavelength





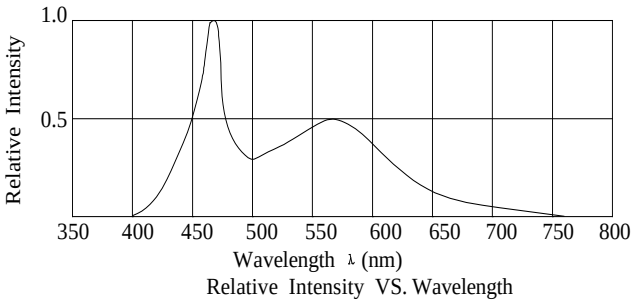




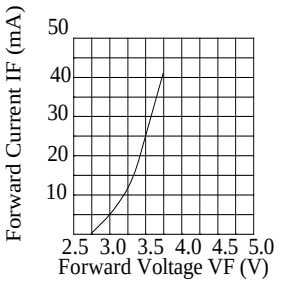


Radiation Diagram

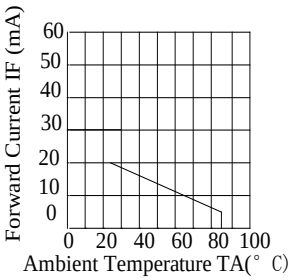
Electrical Optical Characteristics Curves At Ta=25 ℃



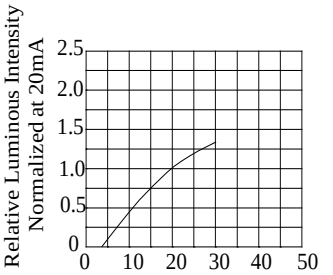
Relative Intensity VS. Wavelength



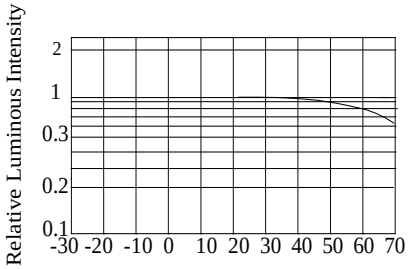
Forward Current vs. Forward Voltage



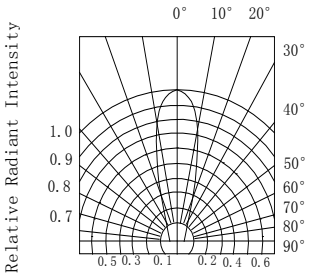
Forward Current Derating Curve



Relative Luminous Intensity vs. Forward Current

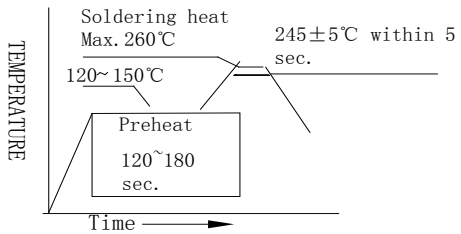


Luminous Intensity vs. Ambient Temperature



Radiation Diagram

Reflow Soldering Instructions



Notes:

1. The LEDs should be used within a year.
2. The LEDs should be kept in 5~30℃ and 60% RH for less.
3. The LEDs should be used within 24 hours, or else should be kept a 5~30℃ and 30% RH or less. And LEDs should be used within 7 days after opening the package.

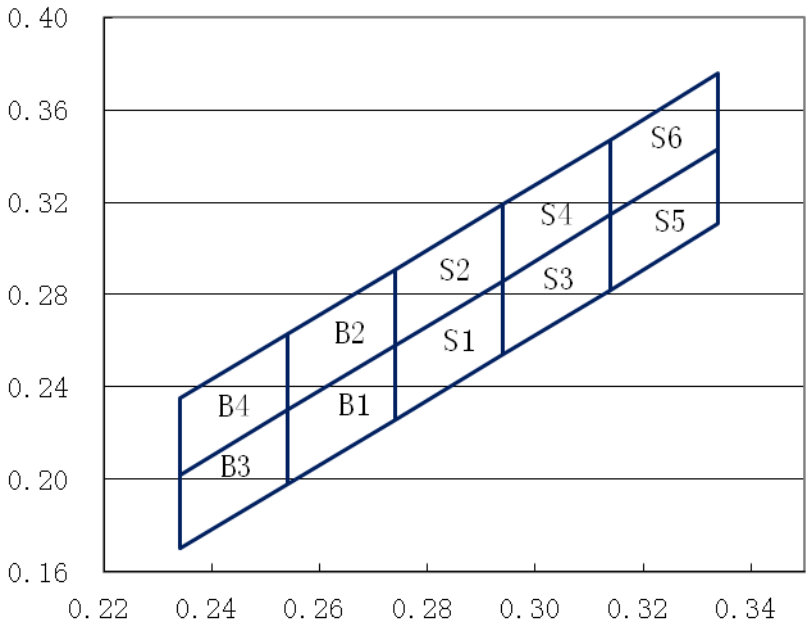
Bin Range Of Luminous Intensity (+/-20%)

Symbol	Bin Code	Min.	Max.	Unit	Condition
Iv(R)	N	28	45	mcd	IF=20mA
	P	45	72		
	Q	72	112		
	R	112	180		
Iv(W)	Q	72	112	mcd	IF=20mA
	R	112	180		
	S	180	280		
	T	280	450		

Chromaticity Coordinates Specifications for Bin Grading (+/-0.02) IF=20mA

BIN	X	Y	X	Y	X	Y	X	Y
B1	0.254	0.198	0.254	0.23	0.274	0.258	0.254	0.198
B2	0.254	0.23	0.254	0.263	0.274	0.291	0.274	0.258
B3	0.234	0.17	0.234	0.202	0.254	0.23	0.254	0.198
B4	0.234	0.202	0.234	0.235	0.254	0.263	0.254	0.23
S1	0.274	0.226	0.274	0.258	0.294	0.286	0.294	0.254
S2	0.274	0.258	0.274	0.291	0.294	0.319	0.294	0.286
S3	0.294	0.254	0.294	0.286	0.314	0.315	0.314	0.282
S4	0.294	0.286	0.294	0.319	0.314	0.347	0.314	0.315
S5	0.314	0.282	0.314	0.315	0.334	0.343	0.334	0.311
S6	0.314	0.315	0.314	0.347	0.334	0.376	0.334	0.343

CIE Chromaticity Diagram (+/-0.02)



Reliability Test Items Conditions

Classification	Test Item	Test Conditions	Test hours	Result
Endurance Test	Operation Life	Connect with a power If=20mA Ta=Under room temperature	1000Hrs	0/20
	High Temperature High Humidity	Ta=＋65℃±5℃ RH=90%-95%	240Hrs	0/20
	High Temperature Storage	High Ta=＋85℃±5℃	1000Hrs	0/20
	Low Temperature Storage	Low Ta=-35℃±5℃ Test time=1000hrs	1000Hrs	0/20
Environmental Test	Temperature Cycling	-45℃～+105℃ 15min 5min 15min	300 Cycles	0/20
	Thermal Shock	-35℃～±5℃～+85℃～±5℃ 5min 10sec 5min	300 Cycles	0/20
	Solder Resistance	Preheating: 120℃-150℃,within 2 minutes. Operation heating : 260℃(Max.),within5 seconds(Max.)	5Cycles	0/20

Judgment criteria of failure for the reliability

Measuring items	Symbol	Measuring conditions	Judgment criteria for failure
Forward voltage	V_F(V)	I_F=20mA	Over U×1.2
Reverse current	I_R(μA)	V_R=5V	Over U×2
Luminous intensity	Iv(mcd)	I_F=20mA	Below S×0.5

Note: 1.U means the upper limit of specified characteristics. S means initial value.
2.Meansurerment shall be taken between 2 hours after the test pieces have been returned to normal ambient conditions after completion of each test.